

# Dipobrato Sarbapalli

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## PUBLICATIONS

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*From Doctoral Thesis research*

1. [Dipobrato Sarbapalli](#), Yu-Hsiu Lin, Sean Stafford, Jangyup Son, Abhiroop Mishra, Jingshu Hui, A Nijamudheen, Adolfo I. B. Romo, Zachary T. Gossage, Arend van der Zande, Jose L. Mendoza-Cortes, Joaquín Rodríguez-López. “A Surface Modification Strategy Towards Reversible Na-ion Intercalation on Graphitic Carbon Using Fluorinated Few-Layer Graphene” *Chem. Mater.* **2022**. (*Submitted*)
2. Abhiroop Mishra, [Dipobrato Sarbapalli](#), Md. Sazzad Hossain, Zachary T. Gossage, Zheng Li, Alexander Urban and Joaquín Rodríguez-López. “Highly Sensitive Detection and Mapping of Incipient and Steady-State Oxygen Evolution from Operating Li-Ion Battery Cathodes via Scanning Electrochemical Microscopy” *J. Electrochem. Soc.* **2022**. DOI: [10.1149/1945-7111/ac857e](https://doi.org/10.1149/1945-7111/ac857e)
3. Yunxiong Zeng, Zachary T. Gossage, [Dipobrato Sarbapalli](#), Jingshu Hui and Joaquín Rodríguez-López. “Tracking Passivation and Cation Flux at Incipient Solid-Electrolyte Interphases on Multi-Layer Graphene using High Resolution Scanning Electrochemical Microscopy” *ChemElectroChem* **2021**, 9, e202101445. DOI: [10.1002/celec.202101445](https://doi.org/10.1002/celec.202101445)
4. [Dipobrato Sarbapalli](#), Abhiroop Mishra and Joaquín Rodríguez-López. “Pt/Polypyrrole Quasi-References Revisited: Robustness and Application in Electrochemical Energy Storage Research” *Anal. Chem.* **2021**, 93, 14048–14052. DOI: [10.1021/acs.analchem.1c03552](https://doi.org/10.1021/acs.analchem.1c03552)
5. Zachary T. Gossage, Kendrick Hatfield, Yuanya Zhao, Raghuram Gaddam, [Dipobrato Sarbapalli](#), Abhiroop Mishra and Joaquín Rodríguez-López. *Application to Batteries and Fuel Cells in Scanning Electrochemical Microscopy*, Taylor & Francis, **2022**. DOI: <https://doi.org/10.1201/9781003004592>
6. [Dipobrato Sarbapalli](#), Abhiroop Mishra, Zachary T. Gossage, Kendrick Hatfield, and Joaquín Rodríguez-López. *Scanning Electrochemical Microscopy: A Versatile Tool for Inspecting the Reactivity of Battery Electrodes in Batteries: Materials Principles and Characterization Methods*, IOP Science, **2021**. DOI: [10.1088/978-0-7503-2682-7ch9](https://doi.org/10.1088/978-0-7503-2682-7ch9)
7. Abhiroop Mishra, Zachary T. Gossage, [Dipobrato Sarbapalli](#), Yuanya Zhao, and Joaquín Rodríguez-López. *Methods and Instrumentation in Energy Storage in*

Encyclopedia of Electrochemistry, Wiley-VCH, 2021. DOI: 10.1002/9783527610426.bard030111

8. Jingshu Hui, A. Nijamudheen, [Dipobrato Sarbapalli](#), Chang Xia, Zihan Qu, Jose L. Mendoza-Cortes, and Joaquín Rodríguez-López. “Nernstian  $\text{Li}^+$  intercalation into few-layer graphene and its use for the determination of  $\text{K}^+$  co-intercalation processes” *Chem. Sci.* **2021**, *12*, 559-568. DOI: [10.1039/D0SC03226C](#)
9. Michael J. Counihan, [Dipobrato Sarbapalli](#), and Joaquín Rodríguez-López. “Picture Your Electrode: A Primer on Scanning Electrochemical Microscopy” *Electrochem. Soc. Interface.* **2020**, *29*, 30–32. DOI: [10.1149/2.f03203if](#)
10. A. Nijamudheen, [Dipobrato Sarbapalli](#), Jingshu Hui, Joaquín Rodríguez-López, and Jose L. Mendoza-Cortes. “Impact of Surface Modification on the Lithium, Sodium, and Potassium Intercalation Efficiency and Capacity of Few-Layer Graphene Electrodes” *ACS Appl. Mater. Interfaces.* **2020**, *12*, 19393–19401. DOI: [10.1021/acsami.9b23105](#)
11. Zachary T. Gossage, Jingshu Hui, [Dipobrato Sarbapalli](#), and Joaquín Rodríguez-López. “Coordinated mapping of  $\text{Li}^+$  flux and electron transfer reactivity during solid-electrolyte interphase formation at a graphene electrode” *Analyst.* **2020**, *145*, 2631-2638. DOI: [10.1039/C9AN02637A](#)
12. Tylan S. Watkins\*, [Dipobrato Sarbapalli](#)\*, Michael J. Counihan\*, Andrew S. Danis, Jingjing Zhang, Lu Zhang, Kevin R. Zavadil, and Joaquín Rodríguez-López. “A combined SECM and electrochemical AFM approach to probe interfacial processes affecting molecular reactivity at redox flow battery electrodes” *J. Mater. Chem. A* **2020**, *8*, 15734–15745. DOI: [10.1039/D0TA00836B](#)
13. Jingshu Hui, Zachary T. Gossage, [Dipobrato Sarbapalli](#), Kenneth Hernández-Burgos, and Joaquín Rodríguez-López. “Advanced Electrochemical Analysis for Energy Storage Interfaces” *Anal. Chem.* **2019**, *91*, 60–83. DOI: [10.1021/acs.analchem.8b05115](#)

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\*Denotes equal contribution

### *From Masters Thesis research*

14. [Dipobrato Sarbapalli](#), Xu Chen, Leslie Struble and Paramita Mondal. “Salicylic acid extraction of sodium aluminosilicates” *J. Amer. Cer. Soc.* **2022** (*Accepted, In press*)

### *From Undergraduate research*

15. [Dipobrato Sarbapalli](#), Yash Dhabalia, Kaustav Sarkar and Bishwajit Bhattacharjee. “Application of SAP and PEG as curing agents for ordinary cement-based systems: impact on the early age properties of paste and mortar with water-to-cement ratio of 0.4 and above” *Eur. J. Environ. Civ. Eng.* 2017, 21, 1237-1252. DOI: [10.1080/19648189.2016.1160843](https://doi.org/10.1080/19648189.2016.1160843)

## CONFERENCE PAPERS

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1. [Dipobrato Sarbapalli](#) and Paramita Mondal, “Effect of TiO<sub>2</sub> and ZnO nanopowders on metakaolin-sodium hydroxide geopolymers” *Proceedings of the 41st International Conference on Advanced Ceramics and Composites*, **2018**, 38, 251-262

## POSTERS

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1. [Dipobrato Sarbapalli](#), Abhiroop Mishra and Joaquín Rodríguez-López. “Pt/Polypyrrole quasi-references revisited: Robustness and application in non-aqueous electrochemical energy storage research” *Turkey Run Analytical Chemistry Conference*, **2021**
2. [Dipobrato Sarbapalli](#), Jingshu Hui, A. Nijamudheen, Jose L. Mendoza-Cortes, and Joaquín Rodríguez-López. “Few-layer graphene as a versatile analytical platform for exploring reversible Na<sup>+</sup> charge storage aided by fluorine surface modifiers” Society of Electroanalytical Chemistry Poster Session, *PITTCO*N, **2021**
3. [Dipobrato Sarbapalli](#), Michael Counihan, Andrew Danis and Joaquín Rodríguez-López. “Application of electrochemical microscopy probe interfacial processes at redox flow battery electrodes” Society of Electroanalytical Chemistry Poster Session, *PITTCO*N, **2020** (Best Poster Award)
4. [Dipobrato Sarbapalli](#), Michael Counihan, Andrew Danis and Joaquín Rodríguez-López. “Understanding interactions of redox-active organic molecules with carbon electrodes” *Turkey Run Analytical Chemistry Conference*, **2019**